

SYNCHRONIZATION OF NON-SEQUENTIAL MOVING POINTERS

ABSTRACT OF THE DISCLOSURE

A hierarchical memory access control distinguishes between blocks of data that are known to be sequentially accessed, and the contents of each block, which may or may not be sequentially accessed. If the contents of a block are provided in a sequential manner within the block, but the sequence does not correspond to a higher-level sequence, due to a non-zero offset in the start of the sequence within the block, the memory access control is configured to optimize the use of available memory by signaling when the within-block sequence corresponds to the higher-level sequence. While the within-block sequence differs from the higher-level sequence, access to the buffer is limited to the higher-level partitioning of the buffer. When the within-block sequence corresponds to the higher-level sequence, access to the buffer is provided at the within-block partitioning of the buffer. In this manner, dependent upon the degree of offset of the within-block sequence relative to the higher-level sequence, access to the buffer is often provided well before the entire block is provided to the buffer, thereby optimizing the speed at which the memory can be accessed.